

### Remarks

Claims 1 to 6 and 8 to 16 are currently pending. The rejections to claims 1 to 6 and 8 to 16 as outlined in the Final Office Action of March 18, 2003 are addressed below. Claim 1 has been amended for technical clarity. Applicant submits that this amendment does not constitute new matter as all of the recited limitations were present in the originally submitted claims.

Claims 1, 6, 9, 11, and 12 have been rejected under 35 U.S.C. §102(b) as being anticipated by Soichiro Kawakami (JP61037969). Claims 2-5, 8, 10, and 13 to 16 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Soichiro Kawakami (JP61037969). Applicant respectfully traverses these rejections.

Soichiro teaches a cathode 1 comprising a supply pipe 5 that supplies gas via tube 63 to buffer 20 inside of partition wall 3, as shown in Figure 1 and described in the previously provided English translation of this reference, at for instance the last paragraph on page 7. The Amendment filed December 23, 2002 in this matter included the statement that “no teaching or suggestion, either express or inherent, is provided in Soichiro to indicate that gas flow may occur into the buffers 18, 19, and 20 other than directly or indirectly via pipe 5 and tube 63.” Based on the Examiner’s comments at paragraph 6 on page 6 of the March 18, 2003 office action, it appears that the Examiner has misconstrued Applicant’s intended argument. Applicant attempted to highlight the fact that pipe 5 is the sole source of gas into the cathode assembly taught by Soichiro and that none of the other nested partitions are attached to a gas supply at one end. Pipe 5, and only pipe 5 in the Soichiro apparatus is connected to the gas supply. As noted in the last paragraph on page 6 of the English translation of Soichiro, pipe 5 “is passed through the cathode support plate 4...such that one end portion thereof extends into the cathode 1 and opens into a tube 63.”

Applicant wishes to respectfully reiterate the points raised in the Amendment filed December 23, 2002. Specifically, “innermost” is defined as “farthest inward.” The “farthest inward” tube (pipe 5) in the Soichiro apparatus does not have one or more arrays of orifices extending along its substantial length. As such, an anticipation rejection based on Soichiro must fail because the reference does not disclose each and every aspect of the claimed invention – namely, an “innermost tube having two ends ...” and “attached to a gas supply at one end and capped at the other end” with “one or more arrays of orifices ... formed” therein and “extending

along the substantial length” of the innermost tube. Pipe 5, which is clearly the innermost pipe in the Soichiro apparatus, is connected to a gas supply at one end as noted above. However, pipe 5 just as clearly is not capped at one end and it does not have one or more arrays of orifices extending along its substantial length as recited in claim 1 for the innermost tube.

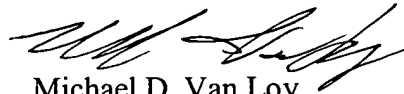
Applicant has amended claim 1 in an attempt to eliminate ambiguity that might have been introduced by the recitation of “at least one innermost tube” in the original claim 1. The amended claim recites “an innermost tube,” which is most consistent with the dictionary definition of “innermost” – specifically, more than one tube cannot properly be “the farthest inward.” While Applicant notes that embodiments including additional nested tubes besides the innermost and outermost tube are envisioned within the scope of the described and claimed invention, only the innermost and outermost tubes are recited in the amended claim to avoid confusion that may be inherent in claim language that is interpretable to suggest the existence of more than one of an element that is referred to in the superlative.

Applicant submits that the clarification of claim 1 discussed above should put the application in condition for allowance. However, even if the Examiner were to persist with his assertion that partition 3 corresponds to the “innermost tube” recited in claim 1 in direct contradiction to the meaning of “innermost,” Applicant submits that the pending 35 U.S.C. § 102(b) rejection over Soichiro is nonetheless invalid. Partition 3 has arrays of orifices formed along its length, and it is capped at one end. However, “one end” of partition 3 is not in any way connected to a gas supply. Rather, as noted previously by Applicant, gas flows from the gas supply through pipe 5 to tube 63 and into the middle of the buffer formed between partition 3 and the outside, solid wall of pipe 5. The end of partition 3 that is closest to the gas supply is sealed by cathode support plate 4 as shown clearly in Figure 1 of Soichiro. The Examiner is not permitted to argue that the present invention is either anticipated or obviousness over structurally different prior art merely because the two different structures purportedly perform the same function. Unless the prior art expressly or inherently teaches all elements of the claimed structure, it cannot be anticipatory. Soichiro clearly does not teach all of the claimed elements of the present invention as outlined above. Therefore, Applicant respectfully requests that the pending 35 U.S.C. § 102(b) rejection be withdrawn.

Furthermore, there is no motivation or suggestion that would have taught one of skill in the art at the time of the present invention that pipe 5 should be eliminated from the Soichiro apparatus and partition 3 directly connected to the gas supply. In fact, as the cathode apparatus of Soichiro must maintain electrical separation from the walls of the reaction chamber – see the use of insulator 8 in Figure 1 to isolate the cathode 1 from the walls – extension of partition 3 to attach it to the gas supply would likely prevent the cathode from maintaining electrical isolation as required for its proper operation. Applicant refers to MPEP § 2143.01 which states that references cannot be combined or modified in such a way as to change their mode of operation or render them inoperable for their intended purpose. As such, no *prima facie* case may be established for obviousness under 35 U.S.C. § 103(a) on the basis of Soichiro.

Based on the foregoing, Applicant respectfully submits that the application is now in condition for allowance. If any matters can be resolved by telephone, the Examiner is invited to call the undersigned agent at the telephone number listed below. The Commissioner is hereby authorized to charge any other fees determined to be due to Deposit Account 50-2319 (Order No. A-67178/MSS/MDV (463035-409)).

Respectfully submitted,

  
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